INCH-POUND

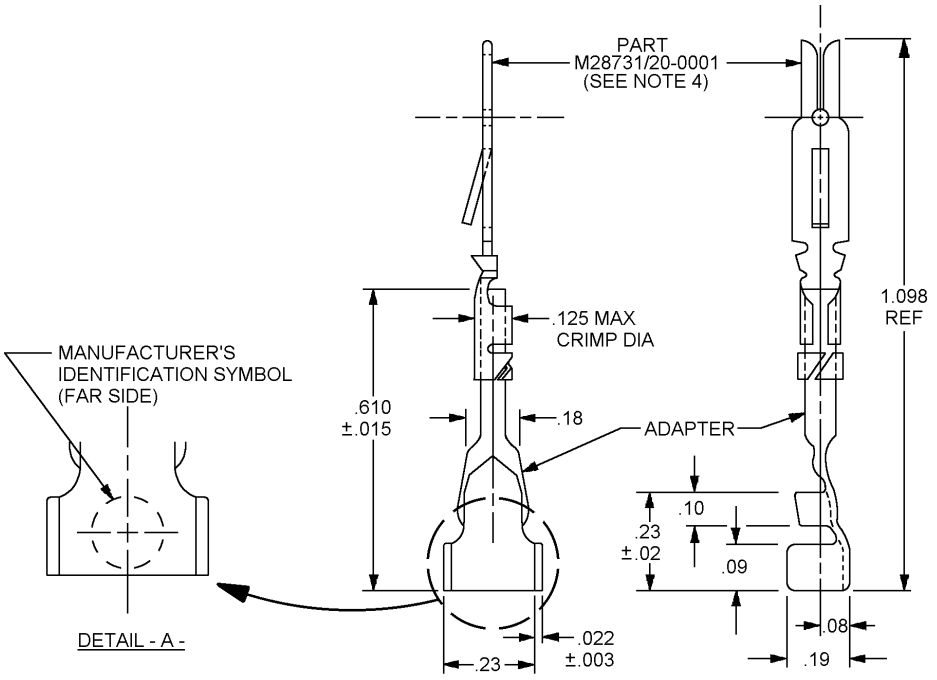
MIL-DTL-28731/23G
15 March 2004
SUPERSEDING
MIL-C-28731/23F
29 October 1992

DETAIL SPECIFICATION SHEET

# CONNECTOR ELECTRICIAL, CONTACT, FORK TYPE, REMOVABLE, DOUBLE WIRE CRIMP

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-DTL-28731.




| Inches | mm |
|---|---|
| .003 | 0.08 |
| .015 | 0.38 |
| .02 | 0.5 |
| .022 | 0.56 |
| .08 | 2.0 |
| .09 | 2.3 |
| .10 | 2.5 |
| .125 | 3.18 |
| .18 | 4.6 |
| .19 | 4.8 |
| .23 | 5.8 |
| .610 | 15.49 |
| 1.098 | 27.89 |

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified the tolerance for three place decimals is ± .010 (0.25 mm).
4. The adepter shall be crimped as shown to a contact in accordance with MIL-DTL-28731.

FIGURE 1. Contact, fork type, double wire crimp.

REQUIREMENTS

Dimensions and configurations: See figure 1.

Material (adapter): Brass in accordance with ASTM B121, ASTM B36, ASTM B16/B16M and ASTM B124/B124M.

Plating: Adapter shall be gold plated in accordance with ASTM B488, grade C, class (50 -microinches minimum) over nickel plating in accordance with SAE-AMS-QQ-N-290, class 2, 50 to 150 microinches.

Crimp diameter: .125 inch (3.18 mm) maximum.

Adapter crimp tensile strength: 35 pounds, minimum.

Wire crimp tensile strength: During crimp tensile strength testing of wires, only one wire shall be tested for each barrel and the required value shall be as shown in table I.

TABLE I. Minimum tensile strength verses wire size (in accordance with NEMA HP-3 and MIL-DTL-16878/7, or /19 strands).

| Wire size (AWG) | Minimum tensile strength (lbs.) |
|---|---|
| 16 | 35.0 |
| 18 | 25.0 |
| 20 | 20.0 |

Application: Crimp shall accept wires of the following AWG sizes and combinations: Two AWG 16 wires, two AWG 18 wires, two AWG 20 wires, one AWG 20 and one AWG 16 and two AWG 20 wires.

Crimping tools (Elco CAGE 12763):

a. Part or Identifying Number (PIN) 18003-024 or equivalent shall be used for 2-16 AWG wires.

b. PIN 18003-025 or equivalent shall be used for:

1. 1-16 and 1-20 AWG wires
2. 2-18 AWG wires
3. 2-20 AWG wires

Contact resistance: Dependent upon wire size. See value specified in table II.

PIN: M28731/23-0001

Note: This unit shall be preassembled by the manufacturer and supplied loose for hand crimping end installation.

TABLE II. Wire size verses contact resistance and low level circuit resistance.

| Wire size (AWG) | Contact resistance | | | Low level circuit resistance | | |
|---|---|---|---|---|---|---|
| | Test current (amperes) | Maximum potential drop (mV) | Maximum contact resistance (mΩ) | Test current (amperes) | Maximum potential drop (mV) | Maximum contact resistance (mΩ) |
| 16 | 8.5 | 59.5 | 7.0 | .001 | 7.0 | 7.0 |
| 18 | 8.5 | 59.5 | 7.0 | .001 | 8.0 | 8.0 |
| 20 | 7.5 | 52.5 | 7.0 | .001 | 10.0 | 10.0 |

Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Referenced documents. In addition to MIL-DTL-28731, this document references the following:

ASTM B16/B16M
ASTM B36
ASTM B121
ASTM B124/B124M
ASTM B488
SAE-AMS-QQ-N-290
NEMA HP-3
MIL-DTL-16878/7
MIL-DTL-16878/19

CONCLUDING MATERIAL

Custodians:
Army - CR
Navy - EC
Air Force - 11
DLA - CC

Preparing activity:
DLA - CC

(Project 5935-4508-002)

Review activities:
Army - AR, AT, AV, CR4, MI
Navy - AS, MC, OS
Air Force - 19, 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organization and responsibilities can change, you should verify the currency of information above using the ASSIST Online database at http://www.dodssp.daps.mil.